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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/328,183	06/08/1999	OVERTON L. PARISH IV	27889-00037	6471

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EXAMINER

ATKINSON, CHRISTOPHER MARK

ART UNIT

PAPER NUMBER

3743

DATE MAILED: 03/22/2002

Please find below and/or attached an Office communication concerning this application or proceeding.

## Office Action Summary

Application No.

09/328,183

Applicant(s)

Parish et al.

Examiner

Atkinson

Art Unit

3743

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

## Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136 (a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

## Status

- 1) ☒ Responsive to communication(s) filed on 10/31/01
- 2a) ☒ This action is FINAL. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11; 453 O.G. 213.

## Disposition of Claims

- 4) ☒ Claim(s) 1-38 is/are pending in the application.
- 4a) Of the above, claim(s) 5, 7, 12-20 and 38 is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-4, 6, 8-11 and 21-37 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claims \_\_\_\_\_ are subject to restriction and/or election requirement.

## Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are objected to by the Examiner.
- 11) ☐ The proposed drawing correction filed on \_\_\_\_\_ is: a) ☐ approved b) ☐ disapproved.
- 12) ☐ The oath or declaration is objected to by the Examiner.

## Priority under 35 U.S.C. § 119

- 13) ☐ Acknowledgement is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d).

a) ☐ All b) ☐ Some\* c) ☐ None of:

1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\*See the attached detailed Office action for a list of the certified copies not received.

- 14) ☐ Acknowledgement is made of a claim for domestic priority under 35 U.S.C. § 119(e).

## Attachment(s)

- 15) ☐ Notice of References Cited (PTO-892)
- 16) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 17) ☒ Information Disclosure Statement(s) (PTO-1449) Paper No(s) 19
- 18) ☐ Interview Summary (PTO-413) Paper No(s) \_\_\_\_\_
- 19) ☐ Notice of Informal Patent Application (PTO-152)
- 20) ☐ Other: \_\_\_\_\_

Art Unit: 3743

***Response to Remarks***

Applicant's arguments filed 10/31/2001 have been fully considered but they are not persuasive.

Claims 5, 7, 12-20 and 38 remain withdrawn from further consideration pursuant to 37 CFR 1.142(b) as being drawn to a nonelected species, there being no allowable generic or linking claim. Election was made **without** traverse in Paper No. 11. Claims 5, 7 and 12-13 do not read on the elected species but rather on non-elected species B.

***Claim Rejections - 35 USC § 103***

The following is a quotation of 35 U.S.C. § 103 which forms the basis for all obviousness rejections set forth in this Office action:

A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Subject matter developed by another person, which qualifies as prior art only under subsection (f) or (g) of section 102 of this title, shall not preclude patentability under this section where the subject matter and the claimed invention were, at the time the invention was made, owned by the same person or subject to an obligation of assignment to the same person.

This application currently names joint inventors. In considering patentability of the claims under 35 U.S.C. § 103, the examiner presumes that the subject matter of the various claims was commonly owned at the time any inventions covered therein were made absent any evidence to the contrary. Applicant is advised of the obligation under 37 C.F.R. § 1.56 to point out the inventor and invention dates of each claim that was not commonly owned at the time a later invention was made in order for the examiner to consider the applicability of potential 35 U.S.C. § 102(f) or (g) prior art under 35 U.S.C. § 103.

Art Unit: 3743

Claims 1-3, 6, 8-11 and 21-37 are rejected under 35 U.S.C. § 103 as being unpatentable over Fox et al. in view of Hamilton et al.('037).

The patent of Fox et al. in Figures 1-6 discloses all the claimed features of the invention with the exception of the channels being micro-channels and inlet and outlet end caps. Regarding "a low profile"/the size of the member and the channel size, a change in size is generally recognized as being within the level of ordinary skill in the art since such a modification would have involved a mere change in the size of a component. *In re Rose*, 105 USPQ 237 (CCPA 1955).

The patent of Hamilton et al.('037). in Figures 12-13 discloses a heat exchanger having a plurality of flattened micro-channels and inlet and outlet end caps for the purpose of increasing the heat transfer rate away from an electronic device and increasing the heat transfer efficiency of the heat exchanger. It would have been obvious at the time the invention was made to a person having ordinary skill in the art to employ in Fox et al. the heat exchanger passage being a flattened micro-channel passage which has a plurality of flattened micro-channels and inlet and outlet end caps for the purpose of increasing the heat transfer rate away from an electronic device and increasing the heat transfer efficiency of the heat exchanger as disclosed in Hamilton et al.('037).

Claim 4 is rejected under 35 U.S.C. § 103 as being unpatentable over Fox et al. in view of Hamilton et al.('037). as applied to claims 1-3, 6, 8-11 and 21 above, and further in view of applicant's omission of known/convention prior art.

The patent of Fox et al. as modified, discloses all the claimed features of the invention

Art Unit: 3743

with the exception of a second plated metal.

Applicant's omission of known/convention prior art in his specification on page 7 discloses that it is known to have a second material between the heat exchanger and the component for the purpose of reducing thermal resistances and attaching the component to the heat exchanger. The material being metal is considered to be an obvious design expedient. It would have been obvious at the time the invention was made to a person having ordinary skill in the art to employ in Fox et al. as modified, a second material between the heat exchanger and the component for the purpose of reducing thermal resistances and attaching the component to the heat exchanger as known by applicant's omission of known/convention prior art.

### ***Response to Arguments***

Applicant's concerns directed toward Fox et al. are not found persuasive. The recitations, in Fox et al. in column 5, lines 55-57, "alternate" and "manufactured by drilling holes" teaches that the heat sink <sup>is a</sup> a one piece heat sink (i.e. unitary). It has been held that the term "integral" is sufficiently broad to embrace constructions united by such means as fastening and welding. In re Hotte, 177 USPQ 326, 328 (CCPA 1973). Further, it has been held "that the use of a one piece construction instead of the structure would be merely a matter of obvious engineering choice." In re Larson, 340 F.2d 965, 144 USPQ 347, 349 (CCPA 1965).

In response to applicant's arguments against the references individually, one cannot show nonobviousness by attacking references individually where the rejections are based on combinations of references. See *In re Keller*, 642 F.2d 413, 208 USPQ 871 (CCPA 1981); *In re*

Art Unit: 3743

*Merck & Co.*, 800 F.2d 1091, 231 USPQ 375 (Fed. Cir. 1986). Fox et al., not Hamilton et al., as stated in the above rejection is relied upon to teach a unitary heat sink.

In response to applicant's argument that the microchannels in Hamilton et al. are not completely closed, the test for obviousness is not whether the features of a secondary reference may be bodily incorporated into the structure of the primary reference; nor is it that the claimed invention must be expressly suggested in any one or all of the references. Rather, the test is what the combined teachings of the references would have suggested to those of ordinary skill in the art. See *In re Keller*, 642 F.2d 413, 208 USPQ 871 (CCPA 1981). Hamilton et al. teaches one of ordinary skilled in the art to have a flattened micro-channel cooling passage for the purpose of increasing the heat transfer efficiency of the heat exchanger and the heat exchanger passage. The passage in Hamilton et al. is considered to be flattened. Therefore, the passageway/channels (80,82,84,86) in figure 2 of Fox et al. will only be modified in size to have the micro-channel dimensions/size as disclosed in Hamilton et al. when being modified by Hamilton et al. Therefore, it would have been obvious at the time the invention was made to a person having ordinary skill in the art to employ in Fox et al. the heat exchanger passage being a flattened micro-channel passage which has a plurality of flattened micro-channels and inlet and outlet end caps for the purpose of increasing the heat transfer rate away from an electronic device and increasing the heat transfer efficiency of the heat exchanger and its passage as disclosed in Hamilton et al.('037).

### ***Conclusion***

**THIS ACTION IS MADE FINAL.** Applicant is reminded of the extension of time

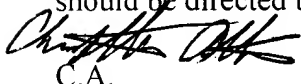
Art Unit: 3743

policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the mailing date of this final action.

The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Christopher Atkinson whose telephone number is (703) 308-2603.



C.A.

March 22, 2002

CHRISTOPHER ATKINSON  
PRIMARY EXAMINER